THE JOURNAL OF PHYSIOLOGY

EDITED FOR

THE PHYSIOLOGICAL SOCIETY

BY

W. ALMERS D. M. ARMSTRONG P. ASCHER
D. A. BAYLOR C. A. R. BOYD M. W. B. BRADBURY
ALISON F. BRADING A. G. BROWN E. CARMELIET
G. J. DOCKRAY R. FETTIPLACE J. T. FITZSIMONS
R. F. HELLON BERNARD KATZ W. R. KEATINGE
H. W. KOSTERLITZ P. LENNIE V. L. LEW C. J. LOTE
H. MEVES E. NEHER M. I. M. NOBLE DALE PURVES
P. M. H. RACK H. REUTER T. J. RINK A. M. SILLITO
R. M. SIMMONS P. R. STANFIELD ANNE E. WARNER
R. GREEN & E. S. PETERSEN (*Distributing Editors*)
A. V. EDWARDS (*Secretary*) K. M. SPYER (*Chairman*)

Volume 343
1983

CAMBRIDGE UNIVERSITY PRESS
CAMBRIDGE
LONDON NEW YORK NEW ROCHELLE
MELBOURNE SYDNEY

Published by the Press Syndicate of the University of Cambridge
The Pitt Building, Trumpington Street, Cambridge CB2 1RP
32 East 57th Street, New York, NY 10022

© The Physiological Society 1983

JPHYA 7 343 1-610 (1983)

ISSN 0022 3751

Printed in Great Britain at the
University Press, Cambridge

CONTENTS OF VOLUME 343

October 1983

DiMarco A.F., Romaniuk J.R., von Euler C. & Yamamoto Y. Immediate changes in ventilation and respiratory pattern associated with onset and cessation of locomotion in the cat. 1

Elfont R.M. & Fitzsimons J.T. Renin dependence of captopril-induced drinking after ureteric ligation in the rat. 17

White D.C.S. The elasticity of relaxed insect fibrillar flight muscle. 31

Thorson John & White D.C.S. Role of cross-bridge distortion in the small-signal mechanical dynamics of insect and rabbit striated muscle. 59

Sargent Peter B. The number of synaptic boutons terminating on *Xenopus* cardiac ganglion cells is directly correlated with cell size. 85

Aalkjær C. & Mulvany M.J. Sodium metabolism in rat resistance vessels. 105

Redman Stephen & Walmsley Bruce The time course of synaptic potentials evoked in cat spinal motoneurones at identified group Ia synapses. 117

Redman Stephen & Walmsley Bruce Amplitude fluctuations in synaptic potentials evoked in cat spinal motoneurones at identified group Ia synapses. 135

Schnapf J.L. Dependence of the single photon response on longitudinal position of absorption in toad rod outer segments. 147

Kovacs L., Rios E. & Schneider M.F. Measurement and modification of free calcium transients in frog skeletal muscle fibres by a metallochromic indicator dye. 161

Gomolla M., Gottschalk G. & Lüttgau H.CH. Perchlorate-induced alterations in electrical and mechanical parameters of frog skeletal muscle fibres. 197

Kawaguchi S., Samejima A. & Yamamoto T. Post-natal development of the cerebello-cerebral projection in kittens. 215

Itoh Takeo, Kuriyama Hirosi & Ueno Hikaru Mechanisms of the nitroglycerine-induced vasodilation in vascular smooth muscles of the rabbit and pig. 233

Chapman R.A., Coray A. & McGuigan J.A.S. Sodium/calcium exchange in mammalian ventricular muscle: a study with sodium-sensitive micro-electrodes. 253

Capovilla M., Cervetto L. & Torre V. The effect of phosphodiesterase inhibitors on the electrical activity of toad rods. 277

Capovilla M., Caretta A., Cervetto L. & Torre V. Ionic movements through light-sensitive channels of toad rods. 295

Grayson J. & Oyebola D.D.O. The effect of catecholamines on intestinal glucose and oxygen uptake in the dog. 311

Cavagna G.A., Franzetti P. & Fuchimoto T. The mechanics of walking in children 323

Brink E., Harrison P.J., Jankowska E., McCrea A.D. & Skoog B. Post-synaptic potentials in a population of motoneurones following activity of single interneurones in the cat. 341

BRINK E., JANKOWSKA E., MCCREA D.A. & SKOOG B. Inhibitory interactions between interneurones in reflex pathways from group Ia and group Ib afferents in the cat. 361

KELLY S.S. & ROBBINS N. Progression of age changes in synaptic transmission at mouse neuromuscular junctions. 375

DINGLEDINE Raymond *N*-methyl aspartate activates voltage-dependent calcium conductance in rat hippocampal pyramidal cells. 385

ASHCROFT Frances M. & STANFIELD P.R. The influence of the permeant ions thallous and potassium on inward rectification in frog skeletal muscle. 407

GOLDBERG Gabriella & LASS Yoram Evidence for acetylcholine receptor blockade by intracellular hydrogen ions in cultured chick myoballs. 429

LUMBERS Eugenie R. & STEVENS A.D. Changes in fetal renal function in response to infusions of a hyperosmotic solution of mannitol to the ewe. 439

FRAY J.C.S., LUSH D.J., SHARE D.S. & VALENTINE A.N.D. Possible role of calmodulin in renin secretion from isolated rat kidneys and renal cells: studies with trifluoperazine. 447

BROWN A.M. & LEW V.L. The effect of intracellular calcium on the sodium pump of human red cells. 455

GLUCKMAN P.D., GUNN Tania R. & JOHNSTON Barbara M. The effect of cooling on breathing and shivering in unanaesthetized fetal lambs *in utero*. 495

BERSSENBRUGGE Anne, DEMPSEY Jerome, IBER Conrad, SKATRUD James & WILSON Pamela Mechanisms of hypoxia-induced periodic breathing during sleep in humans. 507

JONES Colin T. & PARER Julian T. The effect of alterations in placental blood flow on the growth of and nutrient supply to the fetal guinea-pig. 525

FITZSIMONS Robin B. & HOH Joseph F.Y. Myosin isoenzymes in fast-twitch and slow-twitch muscles of normal and dystrophic mice. 539

AUERBACH Anthony, DEL CASTILLO Jose, SPECHT Philip C. & TITMUS Margaret Correlation of agonist structure with acetylcholine receptor kinetics: studies on the frog end-plate and on chick embryo muscle. 551

LORKOVIĆ Hrvoje Potassium contractures in mouse limb muscles. 569

ALPERN M., CHING C.C. & KITAHARA K. The directional sensitivity of retinal rods. 577

FRANK Eric & WESTERFIELD Monte Development of sensory–motor synapses in the spinal cord of the frog. 593

PROCEEDINGS OF THE PHYSIOLOGICAL SOCIETY

16–18 *June* 1983

Cambridge Meeting

DEMONSTRATIONS

Billing A.E. & Vince M.A. Temperature discrimination in the newly born lamb. 1*P*

Vince M.A. Sensory factors involved in the newly born lamb's initial search for the teat. 2*P*

Ingram D.L., Sharman D.F. & Stephens D.B. Apparatus for investigating the effects of vibration and noise on pigs using operant conditioning. 2*P*

Hague Peter & Shillito Walser Elizabeth Observations on the behaviour of pigs kept under controlled husbandry conditions. 3*P*

Brown D. & Dauncey M.J. Investigation of activity-induced thermogenesis in mice over periods of 24 hr. 4*P*

Baldwin B.A., Ingrey C.C., Parrott R.F. & Toner J.N. A method for the quantitative recording of ingestive behaviour in sheep, using closed circuit television. 5*P*

Baldwin B.A., Hill M.W., Osborne J. & Sharman D.F. Voltametric recording from the brain of a conscious sheep. 5*P*

Baldwin B.A. & Toner J.N. A method for recording behaviour and telemetered heart rate in sheep. 6*P*

Baldwin B.A., Toner J.N., Vince M.A. & Weller C. Recording the fetal lamb's sound environment using an implantable radio hydrophone. 6*P*

James P.S. & Smith M.W. Selective harvesting of hamster jejunum enterocytes from intact tissue *in vitro*. 7*P*

Dain A.R. & Tucker E.M. Intra- and interspecific hybridomas for the production of monoclonal antibodies and for gene mapping in cattle. 8*P*

Horsnell J.M. & Mangan J.L. Enzyme-linked immunosorbent assay (ELISA) of leaf proteins in ruminant digestion. 9*P*

Hoyland J., Sayers A.J. & Tregear R.T. Two applications of X-ray diffraction to the comparative study of muscle. 10*P*

Bicknell R.J., Leendertz J. & Worley R.T.S. Time lapse video recording of rapid morphological changes of rat pituicytes in culture. 11*P*

Dyball R.E.J. & Leng G. Can spike waveform be used to identify rat magnocellular neurosecretory cells? 12*P*

Ho Y.W., Mason W.T. & Nicholson D.M. Organ cultures of the mature bovine supraoptic nucleus. 13*P*

Hatton G.I., Ho Y.W. & Mason W.T. Use of gauze 'microwells' for application of substances to and sampling from hypothalamic slices. 14*P*

Dyer R.G. & Poulain D. A preparation for studying the spinal pathways mediating the milk-ejection reflex in rats. 15*P*

Brown K.D., Fleet I.R., Hamon M. & Heap R.B. A method for comparing simultaneously the transport of oestrone sulphate, epidermal growth factor and amino acids across the mammary gland into milk and lymph in the goat. 15*P*

Thompson G.E. Preparation of an inguinal fat pad in the sheep for acute experiments. 16*P*

Lamb T.D. 'ANADISK', a disk recorder for analogue signals. 16*P*

Greeff N.G. Voltage clamp of a cut-open squid giant axon. 17*P*

Gibson J.S. A simple Ussing-type chamber for studying transport in the yolk-sac placenta of the rat. 18*P*

Brooks A.N., Cheeks R.E., Haynes N.B., Lamming G.E. & Lees P.D. An indwelling catheter to permit repeated naloxone infusion into the lateral cerebral ventricle of ewes. 18*P*

Comis S.D., Osborne M.P. & Pickles J.O. A method for the electron microscopic localization of myosin ATPase activity in the organ of Corti of the guinea-pig. 19*P*

Prochazka A. & Wiles C.M. Electrical stimulation of paretic leg muscles in man, allowing feedback-controlled movements to be generated from the wrist. 20*P*

COMMUNICATIONS

Thompson G.E. Dopamine and lipolysis in adipose tissue of the sheep. 21*P*

Elder H.Y., McEwan Jenkinson D., Montgomery I. & Moss V.A. The use of computer-linked planimetry in the image analysis of serial sections from horse sebaceous glands. 21*P*

Bell F.R. & Doris P.A. Angiotensin II levels in plasma and cerebrospinal fluid of dehydrated calves. 22*P*

Argo Caroline M. & Smith J.S. Relationship of energy requirements and seasonal cycles of food intake in Soay rams. 23*P*

Bekkers J.M., Greeff N.G. & Neumcke B. The conductance of sodium channels in the squid giant axon. 24*P*

Art J.J., Crawford A.C., Fettiplace R. & Fuchs P.A. The ionic basis of efferent synaptic potentials in turtle cochlear hair cells. 25*P*

Bush B.H.M. & Pasztor V.M. Adaptation and sensory habituation in primary mechanoreceptive afferents of the lobster oval organ. 26*P*

Miledi R. & Reiser G. Time-course of miniature endplate currents evoked by acetylcholine quanta released from frog Schwann-cells 27*P*

Allen Elizabeth G. & Slater C.R. Acetylcholine receptor distribution at regenerating ectopic neuromuscular junctions in the rat. 28*P*

Adams D.J. Chemical modification of endplate channels in frog skeletal muscle. 29*P*

Dawson Jill & Djamgoz M.B.A. Intracellular potassium activities of blowfly larval muscle cells. 30*P*

Duce I.R. & Scott R.H. GABA sensitivity in the distal bundles of the locust extensor tibiae muscle. 31*P*

Bartels E.M. & Elliott G.F. Donnan potentials in glycerinated rabbit skeletal muscle: the effects of nucleotides and of pyrophosphate. 32*P*

Goedert M., Hunt S.P., Iversen L.L. & Otten U. Biochemical and anatomical effects of antibodies against nerve growth factor on developing rat dorsal root ganglia. 33*P*

Miles R. & Wong R.K.S. Single neurones can influence synchronized population discharge in the CA3 region of the guinea-pig hippocampus. 34*P*

MacDonald A.G. Homeoviscous theory under pressure. 35*P*

Bates C.A., Dyball R.E.J. & Stephens N.G. Enlarged dendritic tree in magnocellular supraoptic neurones of rats and mice with diabetes insipidus. 36*P*

Everitt B.J., Lightman S.L. & Todd K. Evidence for a role of ascending lateral tegmental noradrenergic neurones in the vasopressin response to hypertonic saline in the rat. 37*P*

De Silva E.B.R., Shi Fan Liu & Greenstein B.D. Synthesis of oestradiol-binding activity *in vitro*, directed by mRNA isolated from neonatal rat brain. 38*P*

Hatton G.I., Ho Y.W. & Mason W.T. Rat supraoptic (s.o.n.) neurones have axon collaterals: anatomical and electrophysiological evidence. 39*P*

Chapman C., Hatton G.I., Ho Y.W., Mason W.T. & Robinson I.C.A.F. Release of oxytocin (OXT) and vasopressin (AVP) from slices of guinea-pig hypothalamus containing supraoptic (s.o.n.) or paraventricular (p.v.n.) nuclei. 40*P*

Barnes P.R.J., Dyball R.E.J. & Morris Sarah C. Evidence for calcium-induced inactivation of calcium channels in the mouse isolated neurohypophysis. 41*P*

Bhanot R. & Wilkinson M. Infantile ovariectomy amplifies the positive feedback effect of oestrogen–progesterone on LH secretion in the rat. 42*P*

Paterson A.T. & Vickers C. Effects of saline intake and naloxone on social behaviour in male mice. 43*P*

Gartside I.B. & Laycock J.F. Are Brattleboro rats with diabetes insipidus really thirsty? 43*P*

Fitzsimons J.T., Fuller Louise M. & members of the 1982–3 Cambridge Part II Physiology Class Drinking in response to intracranial injection of components of the renin–angiotensin system in the Brattleboro rat. 44*P*

Bennett T. & Gardiner S.M. The effects of captopril on blood pressure and intakes and urine outputs of water and electrolytes in Brattleboro rats. 45*P*

Davies P.D., Duncan G. & Pynsent P.B. Influence of aqueous humour glucose on the sodium concentration of human cataractous lenses. 47*P*

Hellewell P.G. & Pearson J.D. Kinetic analysis of prostaglandin $F_{2\alpha}$ and adenosine uptake in the piglet pulmonary circulation. 48*P*

Dutton A. & Mott J.C. Plasma K^+ and arterial pressure in nephrectomized fetal lambs. 49*P*

Harris P.J. & Munro Janis O. The effects of angiotensins II and III on sodium excretion during administration of converting enzyme inhibitor in rats. 50*P*

Peart W.S. & Unwin R.J. Effects of substance P (SP) on renal function in conscious rabbits. 51*P*

Atkins J.L., O'Morchoe C.C.C. & Pinter G.G. Renal lymph flow in the dog and effect of ureteric occlusion. 51*P*

Karim F., Poucher S. & Summerill R.A. Carotid baroreceptors and the kidney in the dog. 52*P*

Brodie D.A., Graham I.F.M. & Kidd G.L. Harmonic analysis of heart rate variability in diabetics. 53*P*

Abdul-Sattar Nedal & Young Shiela Effect of posture on the heart rate pattern in man. 54*P*

Woodward B. & Zakaria M.N.M. The effects of potassium and magnesium on reperfusion-induced arrhythmias in the isolated rat heart following coronary artery ligation. 55*P*

Malm L. & White P. Isoprenaline-induced reduction of the air pressure necessary to open the Eustachian tube in the rat. 56*P*

Gilbey M.P., Jordan D., Richter D.W. & Spyer K.M. The inspiratory control of vagal cardio-inhibitory neurones in the cat. 57*P*

Allen D.G., Morris P.G. & Orchard C.H. A transient alkalosis precedes acidosis during hypoxia in ferret heart. 58*P*

Fry C.H. & Mounsey J.P. Some effects of cyanide on intracellular sodium activity in ferret ventricular myocardium *in vitro*. 59*P*

Gotsman M., Sarel O. & Shimoni Y. Catecholamines illustrate interaction between calcium current augmentation and repriming in frog atrium. 60*P*

Montgomery R.A.P., Tomlins B. & Williams A.J. Single-channel activity of rabbit cardiac sarcoplasmic reticulum monitored in planar lipid bilayers. 61*P*

Harris J.B. Verapamil-resistant electrical activity in the guinea-pig isolated vas deferens. 62*P*

Bolton T.B. & Clapp L.H. Effect of noradrenaline on ^{86}Rb efflux from arterial smooth muscle of rabbit and guinea-pig. 63*P*

Lang R.J. & Takewaki T. Role of endothelium in the relaxation of small arteries of guinea-pig produced by activation of muscarinic receptors. 64*P*

Davies Jane M. & Williams K.I. Relaxation of the rat aorta by vasoactive intestinal polypeptide is endothelial cell dependent. 65*P*

Wright D.M. Effect of ionophoretic application of zinc to cortical neurones. 66*P*

Fleetwood-Walker S.M., Hope P.J., Iggo A., Mitchell R. & Molony V. Characterization of receptors mediating the selective effect of noradrenaline on the cutaneous sensory responses of identified dorsal horn neurones in the cat. 67*P*

Cervero F. & Connell Lynne A. Anatomical observations on the projection of somatic and visceral afferent fibres to the thoracic spinal cord of the cat. 68*P*

Barasi S. & Duggal K.N. Investigation of the putative antinociceptive effect of electrical stimulation in the region of the substantia nigra in the rat. 69*P*

Angel A. & Banks D. The functional organization of the forepaw sensorimotor cortex in the adult rat. 70*P*

Lovick T.A. Descending projections from nucleus paragigantocellularis lateralis in the cat. 71*P*

Amassian V.E. & Batson D. Effect on feline rubral units of cooling or lesions of cerebellar deep nuclei. 72*P*

Milne A.R. Sleep studies in rats following intracerebroventricular injections of saline: need for caution. 73*P*

Smaje L.H. & Swayne G.T.G. Distensibility of single capillaries in the frog mesentery. 73*P*

Boyer J.L., Gautam A., Giebisch G. & Graf J. Electrophysiological demonstration of paracellular ion transport in bile formation of isolated rat hepatic secretory units. 75*P*

Sweiry J.H. Effects of sulfhydryl reagents, ruthenium red and metabolic poisoning on calcium transport at the maternal and fetal sides of the dually perfused guinea-pig placenta. 76*P*

Mann G.E., Wilson S.M. & Yudilevich D.L. Stereoselectivity and sodium independence of the cationic amino acid transport system in the cat salivary epithelium. 77*P*

Smith M.W. Postnatal development of alanine uptake by pig intestinal villi. 78*P*

Jackson M.J. & Meaney C.A. Transport of weak bases across rat jejunum *in vitro*. 79*P*

Nathanson I.T. & Widdicombe J.H. Vasoactive intestinal polypeptide (VIP) stimulates active secretion of Cl by the dog tracheal epithelium. 79P

Olver R.E. & Robinson E.J. Na^+ and Cl^- transport by the tracheal epithelium of fetal and adult sheep *in vitro*: effects of isoprenaline and amiloride. 80P

McGrath Clare & Morrison J.D. The effects of ageing on the optical quality of the human eye. 81P

Attwell D, Wilson M. & Wu S.M. Test of the principle of univariance for salamander rods and cones isolated from the retina and in the intact retina. 82P

Djamgoz M.B.A. & Laming P.J. Effect of dopamine on fish retinal horizontal cells: intracellular chloride activity measurements in L-type units. 83P

Poulain D.A. & Tasker J. Intramammary pressure variations indicative of sustained release of low amounts of oxytocin in unstimulated rats. 84P

Comline R.S. & Fowden Abigail L. The effects of removal of the pancreas from the sheep fetus. 85P

Mitchell M.A. Binding of tri-iodothyronine and thyroxine to β-lipoprotein in chicken plasma. 86P

Levin R.J. & Wagner G. Quantitative analysis of amino acids in human vaginal fluid during the menstrual cycle. 87P

Binfield P., De Belder A., Thompson D.G., Warren S., Wilson M. & Wingate D.L. The influence of duodenal intraluminal osmolality on intestinal transit. 87P

Pilot Marie-Anne, Thompson H.H. & Zara G.P. Effect of 5-hydroxytryptamine on canine intestinal motility during fasting. 88P

Binfield P., De Belder A., Thompson D.G., Warren S., Wilson M. & Wingate D.L. Fasting human small intestinal transit and motor activity. 89P

Chatamra K., Daniel P.M., Kendall Marion D. & Lam D.K.C. A comparison of the weights of the thymus in fasted and diabetic rats. 90P

Simons T.J.B. The influence of lead ions on red cell cation permeability. 91P

Born G.V.R. & Housley Georgina Effects of different lipid diets on the membrane of rabbit erythrocytes. 92P

Jarvis S.M., Kwong Y.P., Wu J.S. & Young J.D. Nitrobenzylthioinosine, a specific photoaffinity probe of the human and pig erythrocyte nucleoside transporter. 93P

Glynn I.M., Howland J.L. & Richards D.E. Orthophosphate plus magnesium causes the rapid release of only 50% of rubidium ions occluded in the unphosphorylated Na, K-ATPase. 94P

Alvarez J., Garcia-Sancho J. & Herreros B. Redox modulation of Ca^{2+}-dependent K^+ transport in inside-out vesicles from human erythrocytes. 95P

Ellory J.C., Hall A.C. & Stewart G.W. The effect of low temperature on the Na + K cotransport system in human red cells. 95P

Cavieres J.D. The molecular size of the red cell calcium pump with and without calmodulin. 96P

Hallam T.J., Rink T.J. & Sanchez Ana Effects of arachidonate and a thromboxane A_2 analogue on human platelets studied with a fluorescence indicator for cytoplasmic free calcium. 97P

Hallam T.J., Rink T.J. & Sanchez Ana Does diacylglycerol, formed by breakdown of phosphoinositides, mediate calcium-independent secretory exocytosis? 98P

Jacob T.J.C. Spontaneous single channel events in *Rana pipiens* lens epithelial cells. 99P

Bashford C.L., Micklem K.J. & Pasternak C.A. Sequential increase of Lettré cell plasma membrane permeability induced by virus. 100P

Alder G., Bashford C.L., Micklem K.J., Pasternak C.A. & Taylor C.C. Membrane potential of Lettré cells may not be set by cation diffusion potential. 102P

Bland K.P., Bountra C., Georgiou P. & House C.R. Action potential in unfertilized mouse egg. 103P

Pette Dirk, Reichmann Heinz & Vetter Claudia Metabolic homogeneity of grouped fibres in reinnervated rat muscle. 104P

Jaros Evelyn & Johnstone Donna Effect of denervation upon muscle fibre number in normal and dystrophic (*dy*/*dy*) mice. 104P

Maughan R.J., Nimmo Myra A., Watson Jennifer S. & Weir J. Influence of muscle fibre composition on the strength/cross-sectional area ratio in human skeletal muscle. 105P

Emery T.M., McNuff Susan, Saunders M. & Sopwith T. Blood gas changes during incremental work tests in explosive and endurance athletes. 106P

Dolan Patricia & Sargeant A.J. Effect of prior exercise on maximal short-term power output of human muscle. 107P

Blix A.S., Johnsen H.K. & Mercer J.B. On nasal heat exchange and the structural basis for its regulation in reindeer. 108*P*

Blix A.S., Johnsen H.K. & Mercer J.B. Central control of thermal balance in Norwegian reindeer. 109*P*

Boyd I.A., Gladden M.H. & Ward J. Two types of static γ axon having a predominantly static bag$_2$ fibre action or predominantly chain fibre action in the several cat muscle spindles they supply. 110*P*

McComas A.J. & Robinson K.L. Identification of a low-threshold cutaneous reflex in the human arm. 111*P*

Lakie M., Walsh E.G. & Wright G.W. Cooling of the forearm – changes in thixotropy. 112*P*

Woolf C.J. Changes in flexor reflex excitability following acute thermal injury in the rat – evidence for central mechanisms. 113*P*

Cowan J.M.A., Day B.L., Marsden C.D. & Rothwell J.C. Evidence for an ipsilateral corticospinal pathway to forearm muscles in man. 114*P*

Flint A.P.F., Heap R.B., Ingram D.L. & Walters D.E. Effect of number of light–dark cycles on length of pregnancy and time of birth in the rat. 115*P*

Cran D.G. The structure of luteal follicles in sheep after priming with pregnant mare serum gonadotrophin (PMSG). 116*P*

Nicolaïdis S. & Thornton S.N. Increased sodium intake induced by intravenous Penthonium administration in rats. 117*P*

Paterson J.Y.F. & Smith M.W. Tissue deformation in the hamster intestinal villus. 118*P*

Harrison F.A., Paterson J.Y.F. & Saunders R.C. Liver blood flow in conscious sheep. 119*P*

Greenwood Y., Orpin C.G. & Paterson I.W. Digestibility of seaweeds in Orkney sheep. 120*P*

Greenwood Y., Hall F.J., Orpin C.G. & Paterson I.W. Microbiology of seaweed digestion in Orkney sheep. 121*P*

Dean A.D.P. & Dyer R.G. Rat tuberoinfundibular neurones are excited by midbrain stimulation. 122*P*

Dyer R.G. & Mansfield S. Evidence that different mechanisms probably mediate the LH surges induced by progesterone and oestrogen in the rat. 123*P*

Fleet I.R. & Mepham T.B. Changes in mammary blood flow and uptake of glucose and amino acids throughout lactation in Friesland sheep. 124*P*

Feinstein A., Heap R.B., Rider V., Wang M.-Y. & Wright L.J. Mechanisms by which anti-progesterone monoclonal antibody blocks pregnancy in mice. 125*P*

Brigstock D.R., Brown K.D., Heap R.B. & Laurie M.S. Cell growth-promoting polypeptides in the uterus of the pig. 126*P*

Blay J. & Brown K.D. Characterization of epidermal growth factor receptors in epithelioid cells derived from the rat small intestine. 126*P*